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the major.

We claim:

Substituted 3-phenyluracils of the general formula I

5 where

 X^{1} and X^{2} are each oxygen or sulfur; W is $-C(R^{8}) = X^{5}$, $-C(R^{8})(X^{3}R^{6})(X^{4}R^{7})$, $-C(R^{8}) = C(R^{9}) - CN$, $-C(R^{8}) = C(R^{9}) - CO - R^{10}$, $-CH(R^{8}) - CH(R^{9}) - CO - R^{10}$, $-C(R^{8}) = C(R^{9}) - CH - CO - R^{10}$, $-C(R^{8}) = C(R^{9}) - C(R^{11}) = C(R^{12}) - C(R^{12})$

 $-C(R^{8}) = C(R^{9}) - CH_{2} - CO - R^{10}, -C(R^{8}) = C(R^{9}) - C(R^{11}) = C(R^{12}) - CO - R^{10} \text{ or } -C(R^{8}) = C(R^{9}) - CH_{2} - CH(R^{13}) - CO - R^{10} \text{ where}$

X3 and X4 are each oxygen or sulfur;

X⁵ is oxygen, sulfur or a radical-NR¹⁴;

R14 is hydrogen, hydroxyl, C1-C6-alkyl, C3-C6-alkenyl, C_3-C_6 -alkynyl, C_3-C_7 -cycloalkyl, C_1-C_6 -haloalkyl, C_1 - C_6 -alkoxy- C_1 - C_6 -alkyl, C_1 - C_6 -alkoxy, C_3 - C_6 -alkenyloxy, $C_5-C_7-cycloalkoxy$, C₅-C₇-cyclo-C₂-C₆-alkynyloxy, alkenyloxy, C_1-C_6 -haloalkoxy, C_3-C_6 -haloalkenyloxy, hydroxy-C₁-C₆-alkoxy, cyano-C₁-C₆-alkoxy, C₃-C₇-cycloalkyl- C_1 - C_6 -alkoxy, C_1 - C_6 -alkoxy, C_1 - C_6 -alkoxy, C_1 - C_6 alkoxy-C₃-C₆-alkenyloxy, C₁-C₆-alkylcarbonyloxy, C₁-C₆-haloalkylcarbonyloxy, C₁-C₆-alkylcarbamoyloxy, C₁-C6-haloalkylcarbamoyloxy, C1-C6-alkoxycarbonyl-C2-C6alkoxy, C1-C6-alkylthio-C1-C6-alkoxy, di-C1-C6-alkylamino-C₁-C₆-alkoxy, phenyl which may carry from one to three of the following substituents: cyano, nitro, halogen, C₁-C₆-alkyl, C₂-C₆-alkenyl, haloalkyl, C1-C6-alkoxy and C1-C6-alkoxycarbonyl, phenyl-C3-C6-alkenyloxy phenyl-C,-C,-alkoxy, phenyl-C3-C6-alkynyloxy, where one or two methylene groups of each of the carbon chains may be replaced with -O-, -S- or -N(C_1 - C_6 -alkyl)- and each phenyl

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ring may carry from one to three of the following substituents: cyano, nitro, halogen, C1-C6-alkyl, C_2-C_6 -alkenyl, C_1-C_6 -haloalkyl, C_1-C_6 -alkoxy, C_1-C_6 heterocyclyl, heterocyclyl-C₁-C₆alkoxycarbonyl, alkoxy, heterocyclyl-C1-C6-alkenyloxy or heterocyclyl-C₃-C₆-alkynyloxy, where one or two methylene groups of each of the carbon chains may be replaced with -0-, -S- or $-N(C_1-C_6-alkyl)-$ and the heterocyclyl ring may be from three-membered to sevenmembered and saturated, unsaturated or aromatic and may contain from one to four hetero atoms selected from a group consisting of one or two oxygen or sulfur atoms and up to four nitrogen atoms and furthermore may carry from one to three of the following substituents: cyano, nitro, halogen, C1- C_6 -alkyl, C_2 - C_6 -alkenyl, C_1 - C_6 -haloalkyl, C_1 - C_6 -alkoxy or C,-C,-alkoxycarbonyl or $-N(R^{15})R^{16}$, where R^{15} and R^{16} are each hydrogen, C_1-C_6 -alkyl, C_3-C_6 alkenyl, C_3-C_6 -alkynyl, C_3-c_6 -cycloalkyl, C_1-C_6 -haloalkyl, C_1-C_6 -alkoxy- C_1-C_6 -alkylcarbonyl, $C_1-C_6-alkoxycarbonyl, C_1-C_6-alkoxycarbonyl-C_1-C_6-alkyl$ or C₁-C₆-alkoxycarbonyl-C₂-C₆-alkenyl, where alkenyl chain may additionally carry from one to three of the following radicals: \halogen and cyano or phenyl which may carry from one to three of the following substituents: cyano, nitro, halogen, C1- C_6 -alkyl, C_1 - C_6 -haloalkyl, C_3 - C_6 -alkeny λ , C_1 - C_6 -alkoxy and C₁-C₆-alkoxycarbonyl, or R15 and R16 together with the common nitrogen atom

form a saturated or unsaturated 4-membered to 7membered heterocyclic structure, where one ring member may be replaced with -O-, -S-, -N=, \NH- or $-N(C_1-C_6-alkyl)-;$

and R^7 are each C_1-C_6 -alkyl, C_1-C_6 -haloalkyl, C_3 - C_6 alkenyl, C₃-C₆-alkynyl, C₁-C₆-alkoxy-C₁-C₆-alkyl, or R6 and R7 together form a saturated or unsaturated

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two-membered to four-membered carbon chain which may carry an oxo substituent, where one member of this chain may be replaced with an oxygen, sulfur or nitrogen atom which is not adjacent to X3 and X4, and where the chain may carry from one to three of the following radicals: cyano, nitro, amino, halogen, C_2-C_6 -alkenyl, C_1-C_6 -alkoxy, $C_1-C_6-alk\chi l$, alkenyloxy, C2-C6-alkynyloxy, C1-C6-haloalkyl, cyano- $C_1-C_6-alkyl$, hydroxy- $C_1-C_6-alkyl$, $C_1-C_6-alkoxy-C_1-C_6-alkoxy-C_1-C_6-alkyl$ alkyl, C₃-C₆-alkenyloxy-C₁-C₆-alkyl, C₃-C₆-alkynyloxy- C_3-C_7 -cycloalkyl, C_3-C_7 -cycloalkoxy, C_1-C_6 -alkyl, carboxyl, C1-C6-alkoxycarbonyl, C1-C6-alkylcarbonyloxy-C1-C6-alkyl and phenyl which may carry from one to three of the following radicals: halogen, cyano, nitro, amino, C_1-C_6 -alkyl, C_1-C_6 -haloalkyl, C_1-C_6 alkoxy and C1-C6-alkoxycarbonyl, and where the chain may furthermore be substituted by a fused-on or spiral-bonded three-membered to seven-membered ring, and one or two carbon atoms of this ring may be replaced with oxygen, sulfur and unsubstituted or C,-C6-alkyl-substituted nitrogen atoms and this ring may carry one or two of the following substituents: cyano, C_1-C_6 -alkyl, C_2-C_6 -alkenyl, C_1-C_6 -alkoxy, C_1-C_6 cyanoalkyl, C_1-C_6 -haloalkyl and $C_1 C_6$ -alkoxycarbonyl;

 R^8 is hydrogen, cyano, C_1-C_6 -alkyl, C_2-C_6 -alkenyl, C_2-C_6 alkynyl, C_1-C_6 -haloalkyl, C_3-C_7 -cycloalkyl $\ C_1-C_6$ -alkoxy- C_1 -C₆-alkyl or C₁-C₆-alkoxycarbonyl;

R' and R' are each hydrogen, cyano, halogen, C_1-C_6 -alkyl, C₁-C₆-alkoxy, halo-C₁-C₆-alkyl, C₁-C₆-alkylcarbonyl or C₁-C₆-alkoxycarbonyl;

hydrogen, O-R17, S-R17, C1-C6-alkyl which may R10 furthermore carry one or two C1-C6-alkoxy substituents or R^{10} is C_3-C_6 -alkenyl, C_3-C_6 -alkynyl, C_1-C_6 -haloalkyl, C_3-C_7 cycloalkyl, C1-C6-alkylthio-C1-C6-alkyl, C1-C6-alkyliminooxy, -N(R15)R16 or phenyl which may carry from one to three of the following substituents: cyano, nitro, halogen, C_1-C_6 -alkyl, C_2-C_6 -alkenyl, C_1-C_6 -haloalkyl, C_1-C_6 -alkoxy ox

፟ኒ-C₆-alkoxycarbonyl,

 R^{17} is hydrogen, C_1-C_6 -alkyl, C_3-C_6 -alkenyl, C_3-C_6 alkynyl, C_3-C_7 -cycloalkyl, C_1-C_6 -haloalkyl, haloalkenyl, cyano-C₁-C₆-alkyl, C₁-C₆-alkoxy-C₁-C₆alkyl, C₁-C₆-alkylthio-C₁-C₆-alkyl or C₁-C₆-alkyloximino- C_1 - C_5 -alkyl, C_1 - C_6 -alkylcarbonyl, C_1 - C_6 alkoxycarbonyl, C1-C6-alkylcarbonyl-C1-C6-alkyl, C1-C₆-alkoxycarbonyl-C₁-C₆-alkyl, phenyl or phenyl-C₁-C₆alkyl, where each of the phenyl radicals in turn may carry\from one to three of the following substituents: cyano, nitro, halogen, C1-C6-alkyl, C1-C6haloalkyl, C_3-C_6 -alkenyl, C_1-C_6 -alkoxy and C_1-C_6 alkoxycarbonyl;

is hydrogen, cyano, halogen, C1-C6-alkyl, C3-C6alkenyl, C_3-C_6-a kynyl, C_1-C_6-a koxy- C_1-C_6-a kyl, C_1-C_6-a alkylcarbonyl, $C_1 - C_6$ -alkoxycarbonyl, -NR¹⁸R¹⁹, where R¹⁸ and R^{19} have the same meanings as R^{15} and R^{16} , or phenyl which may furthermore carry from one to three of the following substituents: cyano, nitro, halogen, C1-C6-alkyl, C1-C6haloalkyl, C3-C6-alkenyl, C1-C6-alkoxy and alkoxycarbonyl;

 R^{13} is hydrogen, cyano, C_1-C_6 -alkyl or C_1-C_6 -alkoxycarbonyl;

or R' and R'0 together form a two-membered to fivemembered carbon chain in which one carbon atom may be replaced with oxygen, sulfur or unsubstituted or C1-C6alkyl-substituted nitrogen;

R1 is halogen, cyano, nitro or trifluoromethyl;

R² is hydrogen or halogen;

 R^3 is hydrogen, nitro, C_1-C_6 -alky1, C_3-C_6 -alkenyl, C_3-C_6 alkynyl, C3-C8-cycloalkyl, C3-C8-cycloalkylcarbonyl, cyano- $C_1-C_6-alkyl$, $C_1-C_6-haloalkyl$, $C_1-C_6-alkyl$, formyl, C₁-C₆-alkanoyl, C₁-C₆-alkoxycarbonyl, C₁-C₆-haloalkylcarbonyl, C_1-C_6 -alkylcarbonyl- C_1 \, C_6 -alkyl, C_1-C_6 -

alkoxycarbonyl-C₁-C₆-alkyl; a group $-N(R^{20})R^{21}$, where R^{20} and R^{21} have one of the meanings of R15 and R16;

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phenyl or phenyl- C_1 - C_6 -alkyl, where each phenyl ring may carry from one to three of the following radicals: cyano, nitro, halogen, C_1 - C_6 -alkyl, C_2 - C_6 -alkenyl, C_1 - C_6 -haloalkyl, C_1 - C_6 -alkoxy and C_1 - C_6 -alkoxycarbonyl;

 R^4 is hydrogen, cyano, nitro, halogen, C_1 - C_6 -alkyl, C_2 - C_6 -alkenyl, C_2 - C_6 -alkynyl, C_3 - C_8 -cycloalkyl, C_1 - C_6 -haloalkyl, C_1 - C_6 -hydroxyalkyl, cyano- C_1 - C_6 -alkyl, C_1 - C_6 -alkoxy, C_1 - C_6 -alkylthio, C_1 - C_6 -alkoxy- C_1 - C_6 -alkyl, C_1 - C_6 -alkylthio- C_1 - C_6 -alkyl or phenyl which may carry from one to three of the following radicals: cyano, nitro, halogen, C_1 - C_6 -alkyl, C_2 - C_6 -alkenyl, C_1 - C_6 -haloalkyl, C_1 - C_6 -alkoxy and C_1 - C_6 -alkoxycarbonyl;

 R^5 is hydrogen, cyano, nitro, halogen, C_1 - C_6 -alkyl, C_2 - C_6 -alkenyl, C_2 - C_6 -alkynyl, C_3 - C_7 -cycloalkyl, C_1 - C_6 -haloalkyl, C_1 - C_6 -hydroxyalkyl, cyano- C_1 - C_6 -alkyl, C_1 - C_6 -alkoxy- C_1 - C_6 -alkyl, C_1 - C_6 -alkylthio- C_1 - C_6 -alkyl, formyl, C_1 - C_6 -alkyl-carbonyl, C_1 - C_6 -haloalkylcarbonyl, C_1 - C_6 -alkoxycarbonyl, C_1 - C_6 -alkoxycarbonyl- C_2 - C_6 -alkenyl, -N(R^{22}) R^{23} , where R^{22} and R^{23} have one of the meanings of R^{15} and R^{16} , or phenyl which may carry from one to three of the following radicals: cyano, nitro, halogen, C_1 - C_6 -alkyl, C_2 - C_6 -alkenyl, C_1 - C_6 -haloalkyl, C_1 - C_6 -alkoxy and C_1 - C_6 -alkoxy-carbonyl, or

 R^4 and R^5 together form a saturated or unsaturated 3-membered or 4-membered carbon chain which may contain from one to three of the following hetero atoms: 1 or 2 oxygen atoms, 1 or 2 sulfur atoms and from 1 to 3 nitrogen atoms, and the chain may furthermore carry from one to three of the following radicals: cyano, nitro, amino, halogen, C_1 - C_6 -alkyl, C_2 - C_6 -alkenyl, C_1 - C_6 -alkoxy, C_1 - C_6 -alkoxycarbonyl;

with the proviso that R^4 may not be trifluoromethyl at the same time as R^5 is hydrogen when W is $-CH=CH-CO-R^{10}$ where R^{10} is C_1-C_6 -alkoxy or C_3-C_7 -cycloalkoxy, and with the proviso that R^4 and R^5 are not simultaneously hydrogen when W is $CH(R^8)-CH(R^9)-CO-R^{10}$ and R^9 is not halogen, and the salts and enol ethers of those compounds I in

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which R3 is hydrogen.

2. Compounds of the general formula Ia or Ib

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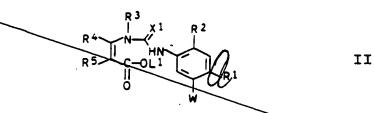
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where the variables R^1 , R^2 , R^4 , R^5 , X^1 , X^2 and W have the meanings stated in claim 1 and R^3 is one of the following groups: C_1-C_6 -alkyl, C_3-C_6 -alkenyl or C_3-C_6 -alkynyl, with the proviso that R^4 may not be trifluoromethyl at the same time as R^5 is hydrogen when W is -CH=CH-CO- R^{10} where R^{10} is C_1-C_6 -alkoxy or C_3-C_6 -cycloalkoxy.

- 3. A compound as claimed in claim 1 or 2, wherein W is $-C(R^8) = X^5$, $-C(R^8)(X^3R^6)(X^4R^7)$, $-C(R^8) = C(R^9) CO R^{10}$ or $-CH(R^8) CH(R^9) CO R^{10}$.
- 4. A compound as claimed in claim 1 or 2, wherein R^3 is C_1 - C_6 -alky1.
- 5. A compound as claimed in claim 1 or 2, wherein R² is hydrogen or fluorine.
- 6. A compound as claimed in claim 1 or 2, wherein R¹ is chlorine or bromine.
- 7. A compound as claimed in claim 1 or 2, wherein R^4 is C_1 - C_6 -haloalkyl.

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Enamine esters of the general formula II



where R^1 , R^2 , R^3 , R^4 , R^5 , X^1 and W have the meanings stated in claim 1 and L^1 is C_1 - C_6 -alkyl or phenyl.

9. Enamine-carboxylates of the general formula ITL

where the variables R1, R2, R3, R4, R5, X2 and W have the meanings stated in claim 1 and L1 is C1-C6-alkyl or phenyl.

Pyrimidinone derivatives of the general formula 10. IVa on IVb

where the variables R1, R2, R4, R5, X1, X2 and W have the meanings stated in claim 1 and Hal is halogen.

Enamine-amides of the formula VIII 11.

where the variables R^1 , R^2 , R^3 , R^4 , R^5 , X^2 and W have the meanings stated in claim 1

A herbicide containing an inert liquid or solid 12. carrier and a herbicidal amount of at least one substituted 3-phenyluracil of the formula I as claimed in claim 1 or of the formula Ia or Ib as claimed in claim 2 or a salt or an enol ether of those compounds I in which R3 is hydrogen.

13. method for controlling undesirable plant growth, wherein a herbicidal amount of a substituted 3phenyluracil of the formula I as claimed in claim 1 or of the formula Ia or Ib as claimed in claim 2 or a salt or an enol ether of those compounds I in which R3 is.

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hydrogen is allowed to act on plants, on their habitat or on seed.

An agent for the desiccation and defoliation of plants, containing, in addition to conventional additives, an amount, having a defoliant or desiccant effect, of at least one substituted 3-phenyluracil of the formula I as claimed in claim 1 or of the formula Ia or Ib as claimed in claim 2 or a salt or an enol ether of those compounds I in which R³ is hydrogen.

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15. A method for the desiccation and defoliation of plants, wherein an amount, having a defoliant and/or desiccant effect, of a substituted 3-phenyluracil I as claimed in claim 1 or Ia or Ib as claimed in claim 2 is allowed to act on the plants.

16. A method as claimed in claim 15, wherein cotton is defoliated.

17. A pesticide containing inert carriers and a pesticidal amount of at least one substituted 3-phenyluracil of the formula I as claimed in claim 1 or of the formula Ia or Ib as claimed in claim 2 or of a salt or of an enol ether of those compounds I in which R³ is hydrogen.

18. A method for controlling pests, wherein a pesticidal amount of a substituted 3-phenyluracil of the formula I as claimed in claim 1 or of the formula Ia or Ib as claimed in claim 2 or of a salt of an enol ether of those compounds I in which R³ is hydrogen is allowed to act on pests or their habitat

19. A process for the preparation of a substituted 3-phenyluracil I as claimed in claim 1 or Ia or Ib as claimed in slaim 2, wherein

a) an enamine ester of the formula II or an enaminecarboxylate of the formula III

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where L^1 is C_1 - C_6 -alkyl or phenyl, is cyclized and, if desired, the substituted 3-phenyluracil I in which R^3 is hydrogen is liberated from the resulting metal salt by means of an acid, or

- 5 b) a 3-phenyluracil I in which R3 is hydrogen is alkylated or acylated or
 - c) a 3-phenyluracil I in which R¹ is halogen is reacted with a metal cyanide or
 - d) a pyrimidimone derivative of the formula IVa or IVb

where Hal is halogen is reacted with a compound HO-R³', HS-R³' Me[•] [•]OR³' or Me[•] [•]SR³', where Me[•] is one equivalent of a metal ion, or

- e) a 3-phenyluracil I in which W is $-CO-R^8$ is acetalated with a compound $H-X^3R^6$, $H-X^4R^7$ or $H-X^3(R^6R^7)X^4-H$ or
- f) a 3-phenyluracil I in which W is $-C(R^8)(X^3R^6)(X^4R^7)$ is subjected to acetal cleavage or
 - g) a 3-phenyluracil I in which W is -C(R⁸)=O is reacted with a phosphorylide of the formulae Va to Vd

 R P=CR⁹-CO-R¹⁰

 Va,

$$R_{3}P=CR^{9}-CO-R^{10} Va,$$

$$R_{3}P=C(R^{9})-CH_{2}-CO-R^{10} Vb,$$

$$R_{3}P=C(R^{9})-C(R^{11})=C(R^{12})-CO-R^{10} Vc,$$

$$R_{3}P=C(R^{9})-CH_{2}-CHR^{13}-CO-R^{10} Vd,$$

where R is a C-organic substituent, or with a phosphonium salt of the formulae VIa to VId

$$R_3P^{\bullet}-CH(R^9)-CO-R^{10}$$
 Hal^{*} VIa,
 $R_3P^{\bullet}-CH(R^9)-CH_2-CO-R^{10}$ Hal^{*} VIb,
 $R_3P^{\bullet}-CH(R^9)-CR^{11}=CR^{12}-CO-R^{10}$ Hal^{*} VIc,

R₃P°-CH(R°)-CH₂-CHR¹³-CO-R¹⁰ Hal° VId, where Hal is halogen, or with a phosphonate of the formulae VIIa to VIId

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add)	>
$a^3/$	/
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p)

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	(RO) 2PO-CH(R9)-CH2-CO-R10	VIIb,
	$(RQ)_2PO-CH(R^9)-CR^{11}=CR^{12}-CO-R^{10}$	VIIc,
	$(RO)_2PO-CH(R^9)-CH_2-CHR^{13}-CO-R^{10}$	VIId,
	or \	
h)	a 3-phenyluracil I in which W is -C(R8)=	O is reacted
	with an amine, hydroxylamine or hydrazi	ne H ₂ N-R ¹⁴ or
i)	a 3-phenyluracil I in which W is -C	$(R^8) = N - R^{14} is$
	cleaved to give a compound I in which W	is $-C(R^8)=0$
	or	
k)	a 3-phenyluradid I in which X2 is oxyge	n is reacted
	with a sulfurization reagent or	
1)	a 3-phenyluracil I in which R5 is hydro	gen is halo-
	genated or	
m)	a 3-phenyluracil I\in which W is cyano i	s reduced to
	a compound I in which W is formyl or	
n)	an enamide VIII as claimed in claim 11	is cyclized
	with a phosgenating or thiophosgenating	agent or
0)	a 3-phenyluracil I as claimed in claim	1, in which
	W is amino, is alkylated by the Meerwei	n method or

a 3-phenyluracil I as claimed in claim 1, in which

W is bromine, iodine or O-SQ2CF3, is coupled with an

olefin under metal catalysis